Vol. 2 No. 9 September 1984

DATA BRIEFS...

○ **Consumers paying more for PCs.** New home computer buyers are willing to pay up to five times more than current home computer owners (1,000-$4,250 vs. $200-$500) according to a survey by Leo Shapiro & Associates. One reason is believed to be deferment of the purchase of a house because of interest rates. This frees savings for other puchases including personal computers. Of current owners interviewed, 35% used their PCs for money management; 30% for games; 17% for education; and 15% for processing work documents.

○ **Stolen personal computer "hot line."** With PC thefts on the rise, John W. Collins, a Rockwell, Texas, used computer dealer decided to take action after inadvertently buying two stolen systems. He has established a "computer hot line" for entering information in a stolen hardware/software database. The hot line can be reached via a modem hy dialing 204/722-9213 between 11 a.m. and 2 p.m. Central Time, Monday through Saturday. Callers should state name and phone number; system make, model and serial numher; police department notified and numher of police report; and date of theft. Theft victims are advised to first contact their local police department.

○ **Zip codes on their way out?** Computer technology created the ubiquitous postal zip codes and may also do away with them. According to International Resource Development, Inc., a market research company, the Congressional Office of Technology Assessment has recommended that the U.S. Postal Service equip all its Optical Character Readers with four-line heads in order to read complete addresses, not just the zip codes. On-line computerized directories would then automatically assign the correct nine-digit zip code. A corresponding har-code would be sprayed on the envelope for later automatic sorting by low-cost Bar Code Readers. This may take effect in the early 1990s as the required computerized directories become available and the cost of computer memory and processing capability declines.

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BARON'S MicroComputing REPORTS

WordStar Add-On Programs Reviewed

The great number of programs that provide enhancements to WordStar testify both to its strong user acceptance (over 800,000 copies have been sold) and to the gaps in its capabilities. As new add-on programs continue to appear, there is frequently an overlap in functions. Prices, too, vary considerably so it is important to understand what add-ons do, how they do it, and how good they are.

Standalone vs. modification

WordStar enhancement programs follow one of two basic design concepts — a standalone module which complements WordStar in some way, or a program which modifies WordStar directly.

• **A standalone module** preserves all of WordStar's functions without modification. Other software functions can be easily added to the program disk and executed from within WordStar, or they can be run from a separate disk. The primary limitation of a standalone module is the size of the additional file(s).

• **Direct modification** of WordStar means you can perform a function without having to first run another program. However, certain programs re-

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GRADING EDUCATIONAL SOFTWARE: PART I

There are so many educational programs in today's market that it is difficult to choose one that best fits your children's or your own needs. The problem is not finding the right subject matter but deciding which of five typing programs, or early childhood educational packages, or SAT kits is most appropriate. The prohlem is further complicated when you consider that the decisive selection criteria are often not so much a question of the skill being taught as the way different programs present and teach it.

The evalution of educational software poses another problem: You can rarely test drive it before you purchase it. For this reason, it is extremely important to understand the different design elements that go into these programs, as well as the learning theory hehind them.

Regardless of subject matter, educa-

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quire the same area of WordStar for modification purposes, not all the modifications are mutually compatible, and there may be restrictions on the order in which modifications are made.

In some cases, you have to keep copies of the main WordStar file, WS.COM, with different modifications. It can be kept on the same disk and the files can share the same overlay files. Each WS.COM has to be given a unique name — not with an operating system command but while installing WordStar itself.

Some modification programs are specific to a particular version of WordStar. *Make sure the program you get will run with your WordStar version.*

Many programs work by inserting additional "dot commands" into the text, usually by a modification of WordStar's "double dot" (Ignore Comment) feature. If the different codes are not mutually compatible, your printer acts unpredictably. Such problems can be prevented by inserting two sets of codes separately and processing the document twice, but this requires more work and time.

There is a distinction between programs that come in dot-matrix printer-specific configurations and those which offer a selection of modifications for various printers.

Enhancement programs roundup

The 17 programs described below were tested on an Osborne 1, an IBM PC, and a NEC APC using a Diablo 630 and an Okidata ML92 printer. *Unless otherwise specified, the software is available in CP/M, PC-DOS, and MS-DOS versions.*

- **Bibliography,** *Pro/Tem Software, Inc., distributed by Digital Marketing Corp., 2363 Boulevard Circle, Walnut Creek, CA 94595, 800/826-2222.* Available in two versions — to be used with a standard word processor or Pro/Tem's *Notebook*. It facilitates integrating bibliographic references into a document. It outputs citations from previously created library files either to a separate bibliography to be added to the document or into the document itself (e.g. into footnotes). Formats corresponding to various writing style requirements are allowed. This is a very flexible and clearly documented program.
- **Footnote and Pair.** *Pro/Tem Software, Inc. manufactured and published by Digital Marketing Corp. (see Bibliography).* Two tested programs often marketed jointly and deservedly popular. *Footnote* helps create either footnotes or endnotes, automatically places them on a page and numbers them. Different note formats are provided. *Pair* helps eliminate common WordStar errors — missing members of paired control codes which show up when a document is being printed (e.g. beginning and end of underlining) and certain matching text entries (e.g. open and close parentheses). Errors are marked for correction by WordStar.
- **HexPrintR//Printerizer,** *C. I. Software, 1380 Garnet Ave., #E149, San Diego, CA 92109, 619/483-6384.* WordStar controls a dot-matrix printer reasonably well. However, with the increasing number of printer features, considerable effort and ingenuity are required to modify the word processing program. These two CP/M programs address modification differently.

HexPrintR (also usable with daisy-wheel printers) modifies with "control-P control-R" codes. It allows you to send any command a printer can understand, irrespective of WordStar's limitations. By working with the codes in the printer's manual, total control of the printer is possible. The drawback is that, as when working with a printer in Basic, the command strings can be quite long and slow to create.

Printerizer installs features for a large number of printers within WordStar. A full range of features can be accessed by combining user-definable printer control codes into sequences. But users who dislike memorizing control codes may consider this an added burden.

Both programs improve WordStar's ability to handle editing tasks while a document is being printed. (*Note:* After October 15, prices will be lowered. Printerizer, including HexPrintR, will cost $35; by itself it will be $25.)

- **Index,** *The Orthocode Corp., distributed by Digital Marketing Corp. (see Bibliography).* Formerly sold as *DocuMate/Plus*. Table of Contents and Index entries created from "dot commands" are inserted in the text. It can process files from different diskettes and combine output.
- **MagicBind.** *Computer EdiType Systems, 509 Cathedral Parkway, New York, NY 10025, 212/222-8184.* This is an enhancement of the *MagicPrint* program (sold separately for $195), the first to provide true proportional spacing for documents created under WordStar. It provides most of MailMerge's functions as well as other functions not available in WordStar or MailMerge such as "local" pitch control (kerning), verification of data file accuracy, and multi-line headers and footers. Its proportionally spaced output is excellent, and it can be modified to adjust printing.

MagicBind makes heavy use of print control codes and dot commands. The final output can be very sophisticated, quite close to a typeset look. On-screen formatting, however, departs sharply from the "what you see is what you get" quality of WordStar. Also, though it provides for some print-time record selection in merge-printing, this feature is not as flexible as the Conditional Print function in MailMerge 3.3 (8-bit version).

MagicBind is not cheap ($250). However, it offers a great deal to users who do not have complex printing needs but have the latest release of MailMerge.

- **MailMerge,** *MicroPro International Corp., 33 San Pablo Ave., San Rafael, CA 94903, 415/499-1200.* The original enhancement to WordStar, so vital to the program that it is hard to understand why it is not automatically included with it. The latest release contains a very powerful addition, a Conditional Print feature which, within certain limits, turns the program into a remarkably flexible database handler.

The $250 list price is high, but MicroPro eases the pain somewhat by offering it as part of a bundled package.

- **Math*,** *Force Tow, 1939 Belmont Ridge Court, Reston, VA 22091, 703/476-5291.* This program allows you to do basic arithmetic within WordStar. Vertical and horizontal entry of numbers up to 19 digits in length are allowed and the display of the result may be formatted. *Limitations:* only the four basic functions are supported, and calculations are limited to numbers displayed on the screen.
- **Proportional Star,** *Writing Consultants, 11 Creek Bend Drive, Fairport, NY 14450, 800/828-6293 (in New York: 716/377-0130).* This program follows a book from the same publisher, *Proportional Spacing on WordStar*, an excellent discussion of WordStar's undocumented proportional print feature and spacing table. Packaged with the program (also sold separately for $25), it provides detailed instructions on modifying WordStar to achieve top quality proportional printing.
- **Propstar,** *Civil Computing Corp., 2111 Research Drive, Suite 1, Livermore, CA 94550, 415/455-8086.* A proportional space printing program available in CP/M format only. Diablo and Diablo-compatible printers are sup-

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ported. The current version supports many WordStar print control and dot commands such as boldface and underline. Others such as headers and omit page numbering are available if the file is first printed to disk under WordStar. The latter also provides page breaks since the current Prop Star release cannot do it independently. (Features like this will be available later). Printing is done unidirectionally. There is no access to the program for modification.

The appearance of documents printed with *PropStar* is pleasing. Given the $49.95 price, it warrants serious consideration.

• **StarIndex**, *MicroPro International (see MailMerge).* Besides the main features listed in the table, this outstanding product offers very flexible formatting controls. *StarIndex* is logical and easy to memorize; the manual is excellent for tutorial and reference purposes.

• **StarMate**, *Solution Technology, Inc., 1499 Palmetto Park Road, Suite 218, Boca Raton, FL 33432, 305/368-6226.* This program supports an impressive number of functions and offers a variety of formatting commands. It allows very fine control over layout in both the main document and the front and back matter. At $145, it is an excellent choice despite the turgid manual.

• **StarPolish**, *Athletic Software Associates, published and distributed by TDI Systems, Inc., 620 Hungerford Drive, Suite 33, Rockville, MD 20850, 301/340-8700.* Since this printer control program runs under PC-DOS/MS-DOS, it can take advantage of the built-in attributes of the IBM PC and other machines to offer on-screen enhancements to WordStar. These substitute for the program's traditional display of print-control characters, e.g. in underlining. Specific features are displayed for either a color or a monochrome monitor. The program also offers a customized help screen. A menu of popular printer models provides quick installation of support features. The on-screen effect is particularly pleasant.

• **WordPatch**, *CMB3 Enterprises, distributed by Rocky Mountain Software Systems, 1280-C Newell Ave., Suite 147, Walnut Creek, CA 94596, 415/680-8378.* This program modifies WordStar by installing a variety of printer-specific features. It replaces WordStar's print menu with its own. This is particularly helpful because *WordPatch* uses multi-character print control sequences.

Drawbacks: the program on the distribution disk erases itself following installation; the modified WordStar may be copied; and additional changes to the WordPatched program are limited.

• **WS-PRINT**, *Wheatland Design Laboratory, 2601 Belle Crest Drive, Lawrence, KS 66044, 913/864-3754.* This separate program module comes in printer-specific versions. *WSOK92*, for the Okidata ML92, offers controls for the various fonts. Its features are supported by the printer but require special work to implement. A downloadable italics font, easily accessed with simple control codes within the document, is included and instructions are given on how to create alternate, downloadable character sets. A sample Greek character source file is provided as is a utility program that compiles the downloadable binary file.

The program recognizes several commands that WordStar does not provide. The Index and Table of Contents commands are not sophisticated but quite workable. In sum, WS-PRINT is an outstanding value.

– Henryk Baran

WordStar Enhancement Package Features

Program	List Price	Design	Arithmetic	Bibliography	Print Code Verification	Footnotes	Automatic Section	Table of Contents	Figure and Table Listings	Index	Chain/Nest Printing	Merge Printing	Matrix Printer Control Enhancement	On-screen Print Format Enhancement	Proportional Spacing (daisy-wheel printers)
~~Bibliography~~	~~$ 99.00~~	~~Module~~		X											
Footnote & Pair	99.00	Module			X	X									
HexPrintR/ / Printerizer	39.00 35.00 55.00 (a)	Modif.											X		
Index	99.00	Module						X	X	X					
MagicBind	250.00	Module				X	X		X		X	X			X
MailMerge	250.00 (b)	Module									X	X			
Math*	75.00	Modif.	X												
Proportional Star	75.00	Modif.													X
PropStar	49.95	Module													X
StarIndex	195.00 (b)	Module					X	X	X	X					
StarMate	145.00	Module		X		X	X	X	X	X					
StarPolish	125.00	Modif.											X	X	
WordPatch	49.95	Modif.											X		
WS-Print	39.95	Module						X		X			X		

(a) Combined price for the two programs (price reductions due in October — see writeup).
(b) The Professional Options Pack — MailMerge, StarIndex, and CorrectStar (PC/MS-DOS only) or SpellStar — is $345

EDUCATIONAL SOFTWARE *(continued)*

tional software requires a conscious choice of particular design features. Some of these choices, such as type of user interface or display, are common to the selection of all computer programs. For instance, young children do better with programs that use a tablet, such as the Koalapad, because it requires less manual dexterity. Adults may appreciate color and animation, but will forgo them for a larger data base or a more complex program.

Other aspects to consider are specific to education. For example, an educational program should have a clearly defined goal that can be achieved within a reasonable length of time. Without such a goal, the student may become frustrated. Rewards are also important. Programs that reward correct answers indiscriminately are not as effective as those that take other factors into account.

Drill and Practice

The methodology of most educational software falls into one of three types; (1) drill and practice, (2) tutorial or (3) simulation. If the program requires the memorization of simple facts by rote, it is probably drill and practice. If it deals with underlying principles and permits the student to work at his or her own level, it may be a tutorial. If the software plunges you into a situation that is similar or related to what could actually happen in real life, then it is a simulation. While all do not teach in the same manner, each has its own merits.

Drill and practice learning is, traditionally, the favored method of elementary school teaching, especially in the beginning grades. The teacher presents a concept such as addition or suffixes and then gradually drills the children in the concept with a set of practice exercises.

In general, drill and practice is appropriate for a preschooler but rarely challenging enough for a teenager and almost never used for teaching adults. There are exceptions, however: some programs that present themselves as drill and practice may use other techniques as well. For example, Sunburst's M-ss-ng L-nks supplies a short essay à la Hangman; that is, certain letters or words are deliberately omitted. The player must use everything he or she knows about grammar and word formation in order to successfully complete the exercise.

The average drill and practice computer program is little more than an electronic exercise book. It does not teach in the strict sense of the word. Rather, the user must already know the underlying principles before attempting to answer the questions posed. For this reason, drill and practice programs may be unsuitable for learning completely new subjects. If you already have a base of knowledge upon which to build, this type of program can be worthwhile.

Perhaps the best examples of drill and practice programs are those for typing and SAT exams. Neither teaches you anything. (Through practice with a SAT program, you may pick up techniques for taking tests, but nothing else.) With a typing program, you simply use it to increase a skill you already have. SAT programs test you on knowledge you already have.

The other two types of educational software will be covered in the next issue of *BMR*. ●

Here is how three different programs teach reading skills.

• **Vocabulary Word Builder** takes a drill and practice approach. The student is presented with a word and must supply its antonym. If the child guesses incorrectly, the correct answer is displayed. After ten words, the computer scores the exercise. There are no true grade levels — the student simply goes from one group of words to the next or can skip a group. The child does not learn how to read, but builds a foundation of words which may help him or her learn at some future date. *American Educational Computer, Inc., 2450 Embarcadero Way, Palo Alto, CA 94303 (drill and practice).*

• **Compu-Read** follows the tutorial approach. The student is pretested and assigned a level. Upon successful completion of the exercises, he or she goes on to the next and more difficult level. If the student cannot do the exercise, the program reassigns him or her to an easier level. Because the words are used within the context of a sentence or short passage, the student is actually taught how to read. *Peachtree Software, 3445 Peachtree Road NE, Atlanta, GA 30326, 800/24-PEACH (tutorial).*

• **Sorcerer** is not even classified as an educational program. Yet, it does teach — as any work of fiction does. It requires the reader to use all or most of the reading skills at his or her command to progress through the adventure to its very end. Other skills, such as logical reasoning, are also honed. *Infocom, Inc., 55 Wheeler Street, Cambridge, MA 02138 (simulation).*

DATA BRIEFS... *(continued)*

○ **INFO 84 to include Info/Software software-only** section. A key feature will be the Software Locator Service which will provide visitors with computerized, cross-referenced listings of software programs appropriate to their individual needs. After discussing their requirements with consultants in attendance, visitors will receive one of two kinds of printouts — short name-and-location listings, or listings with longer product descriptions. Several thousand products are expected to be exhibited at the 11th annual INFO 84 show to take place October 1-4 on all four floors of the New York Coliseum.

○ **VM (Virtual Machine) operating system for micros** will emerge as a result of competition between IBM, Apple and AT&T, according to Strategic Incorporated, a Cupertino, California research firm. This PC version of the IBM-developed system will allow software applications for the IBM PC-DOS, AT&T Unix and Apple Macintosh, among others, to run on the same computer with VM as the host operating system.

○ **More about VDTs.** The National Safety Council states that VDTs present "no appreciable radiation hazard" to those operating them. The Council, however, warns of stress and fatigue from extended periods of VDT use. Some tips: the top of your screen should be no higher than eye level; its face should be tilted back 10 to 20 degrees (unless this increases the glare); and your eyes should be about 18 inches from the screen. Their brochure, *Video Display Terminals . . . The Human Factor*, is free. Send a stamped, self-addressed, business-size envelope to: *National Safety Council, Dept. PR, 444 N. Michigan Ave., Chicago, IL 60611.*

○ **Are you a FORTH user?** The FORTH Interest Group (FIG) offers a range of member services including *FORTH Dimensions* magazine, manuals and other publications; FIG-Tree on-line data base; conferences (annual FORTH convention is November 16-17, Palo Alto, Calif.); library, speaker bureau, job registry and catalog of FORTH software, educational tapes, etc. FIG has 4,800 members in 53 chapters. Annual membership is $15/yr. ($27/foreign). Call *FIG HOT LINE*, 415/962-8653, or write to *FIG, K.P.B. Box 1105, San Carlos, CA 94070.*

• **PC training for manager lacking** finds an Arthur Young survey of 453 companies. Only 25% give formal microcomputer training to line personnel; only 24% find teaching materials satisfactory. Self-training texts are considered to be particularly inappropriate.

Two Low-Cost Hard-Disk Champions

Kaypro 10 vs. Morrow Micro Decision 11 (Part II)

In the quickly changing microcomputer scene, the Kaypro 10 is relatively mature. It was the first low-priced hard-disk computer, antedating the Morrow MD11 on the retail market by seven or eight months.

The hardware

Like most transportables, the Kaypro 10 consists of a CPU box that houses the monitor and the drives. It weighs 31 pounds and fits under a non-charter airline seat.

The Kaypro 10's CPU is a Z80A with a 4 MHz clock rate. Its 64K RAM is the maximum directly supported by the CP/M 2.2 operating system. Disk storage is provided by a 10 megabyte hard disk, subdivided by the software into two logical drives. There is also a 400K (unformatted) double-sided floppy drive. The disk drive controller supports the addition of external drives. I/O connections include two serial ports for printer and modem, and a Centronics-type interface for a parallel printer.

Bundled software

The Perfect Series have recently been replaced as the core of the Kaypro software package by an impressive variety of programs from MicroPro and other publishers. They should meet most users' needs. Word processing software includes the latest version of MicroPro's *WordStar* and *Mail/Merge*, and Oasis Systems' *The Word Plus* — an excellent spelling checker which displays suspect words in context and can process them in several ways. The spreadsheets, *CalcStar* and *MicroPlan*, are both quite adequate.

Kaypro 10 also has two database managers: MicroPro's *InfoStar* (consisting of *DataStar* for data entry and retrieval, and *ReportStar* for producing reports) and version 2.41 of *dBase II*. There are also three useful utilities — *Zip, dGen, dSort* — and a tutorial program, *dBase II Lessons*.

For programmers, there are several varieties of Basic: *Microsoft Basic* (an earlier version, *OBasic*, is also provided); *CBasic* (used in a fair amount of commercial software); and *SBasic* (Pascal-like).

Although *Suprterm*, Kaypro's own terminal emulation program, was designed with Hayes products in mind, it is compatible with most modems. In addition to being menu-driven and very easy to use, it supports pulse and tone dialing, autodial and autoanswer, redialing on busy signal, and both Christensen (block mode) and XON/XOFF protocols. Batch mode (multiple file) transfers are also allowed.

There is also a collection of popular adventure-type Basic games. A few use Kaypro's limited graphics capabilities. The graphics are adequate for business presentations, but not for Zaxxon.

A number of utilities, some from public domain, others developed by Kaypro itself, are also included. Among the latter is *MFDISK*, for accessing a large number of non-Kaypro disk formats. Another is *Configuration Program*. It defines macro sequences (up to four bytes each) for the numeric keypad thus substituting for function keys. The program comes with separate help files for each command and good safety features. The *MUFBAR* set of programs backs up the hard disk onto floppies, but it lacks an incremental backup feature. So, you must either back up the entire hard disk, or keep track of those files which have been substantially changed since the last backup.

Working with the Kaypro 10

Like the MD11, the Kaypro system offers both a menu-driven interface and easy entry into the operating system. A "Master Menu" offers 11 major software choices, each with its own sub-menu. All are well thought out, and working with movable lines on the screen is pleasant. The speed of the hard disk is impressive and, as with the MD11, makes the menus palatable.

Documentation

More than 20 manuals are provided by the software publishers and Kaypro itself. The most important is *The Kaypro 10 User's Guide*. About 100 pages, this well laid out and illustrated manual is an introduction to the hardware and CP/M commands. The other major CP/M document, the *CP/M Operating System Manual*, is too technical for most people; an intermediate level text would have been more helpful. Another valuable document is the *Introduction to Kaypro Software*, which presents a quick overview of the bundled programs.

Neophytes will find the manuals helpful, but will still have to learn by trial and error. Fortunately, the menu system is very good, and there are sufficient safeguards to prevent most major disasters.

How do the two systems compare?

The basic similarity in design and marketing of the Kaypro 10 and the Morrow MD11 is reflected in their prices. The Kaypro 10 retails for $2,795, the MD11 for $2,995. Since a comparable 16-bit hard disk unit would cost at least $1,000 more, both computers represent an outstanding value. Their on-line storage capacity makes them ideal for significant data base applications. The tradeoff is the limitations on RAM size of an 8-bit CPU.

The characteristics of the two hardware/software packages are too close to declare either machine a clear winner. However, there are differences that the prospective buyer should be aware of. The strengths of each system are listed below:

Kaypro 10 advantages

- Transportability, if you need it
- Better database management system and spelling checker; has a communications program (not included with the MD11); supports more foreign disk formats
- Extensive community of users and third-party manufacturers, ensuring user support

Morrow MD11 advantages

- Larger maximum file size — 6 megabytes vs. 4.5 on the Kaypro 10
- Faster speed of execution
- On Morrow-supplied terminals, a set of function keys distinct from the numeric keypad; a larger CRT; option to attach a non-Morrow terminal
- Provision for synchronous communications
- Has an accounting package (none included with the Kaypro 10)

Note: Both companies have a record of changing the components of the bundled software package. Be sure to check the latest configuration before making a decision.

– Henryk Baran

SECOND COMPUTERS
MAKING TRACKS WITH THE ROADRUNNER

Micro Office's CP/M-compatible RoadRunner PC is a medium-priced (just under $2,000) lap-sized computer with potentially impressive features. For instance, its standard memory configuration of 16K RAM (in a data cartridge) can be expanded to 256K. The unit's flip-top LCD sports up to eight lines of 80 characters each. Cartridges are its major storage media.

• **Hardware.** Included in the RoadRunner PC's $1,995 price tag are an RS-232 port, a 37-pin parallel bus extender, a battery charger, 64K of ROM, a 16K RAM cartridge and three software packages on ROM cartridge — EDITOR, a word processing program; Microsoft BASIC; and Sorcim SuperCalc. There also are a built-in appointment scheduler, a name and address filer, telecommunications software, and several utilities. The RoadRunner measures approximately three by eleven by eight inches and weighs a not-so-light five pounds. Of its 73 keys, 12 are function keys. A 300-baud modem ($240), a letter-quality printer ($695), and a portable thermal printer ($375), are optional hardware.

There are up to six drive designations (A: through F:). Drives A through D are for the cartridge slots. Drive E is the ROM operating system area, and Drive F simulates an internal cartridge. Additional designations require bus expansion.

• **Other versions.** There are telecommunications and dumb terminal versions of The RoadRunner. The Electronic Mail version ($1,500) comes with 32K of ROM, an 8K RAM data cartridge, the EDITOR and a 300-baud modem. The stripped down RoadRunner T costs $1,350.

• **Cartridge storage.** RoadRunner's use of cartridges as storage media is unique. This means that, for the user, program loading is almost instantaneous. Because the RAM cartridge storage can be upgraded to 256K, generic CP/M software can be downloaded, translated, stored in cartridge and then run.

Unfortunately, the cost of additional RAM cartridges is high. Blank data cartridges range from $50 for 8K of RAM to $350 for 64K. (The SuperCalc program costs $275; the other two programs are priced at $200 each.)

• **Software.** RoadRunner's address and schedule programs are both easy to use. The user can insert, change, delete and print records, and also search, display and browse through the files.

The scheduler has an alarm function for appointments. The address file can be saved to an external cartridge rather than the default F: drive. If it is connected to a telephone, any number listed in the file can be dialed by pressing a function key.

The terminal software is sophisticated. Aside from up- and downloading text and program files, the program permits the downloading of graphic images if the host computer is operating under ASCOM (a telecommunications package by Dynamic Microprocessor Associates). Among the parameters (found in the SETCOMM function of the Utility menu) that must be set before running the terminal software are: echo, auto line feed, baud rate, word size, number of stop bits, and type of parity and handshaking.

The EDITOR program is a simple, but effective word processor. Besides the create and edit modes, the program also has a merge feature. *(Warning:* if you try merging the second document to the front of the first document, you will lose a line or more of the latter.) The editing functions are displayed at the bottom of the screen by hitting the MENU key. Among the functions available are: reform, cut and paste, set margin, center text and search and replace.

• **Bugs and other drawbacks.** The file directory can be accessed through either of two menus: Utilities or EDITOR. When reviewed, the EDITOR's directory had a bug. It consistently listed the amount of free RAM incorrectly. It reported that the RAM available in each of the drive designations was in excess of 190K. Even in the case of the 16K data cartridge where there were three files totaling 10K, it showed 245K of free RAM. Also, the keyboard key that depicts a backslash prints a Japanese symbol.

RoadRunner's biggest drawbacks, however, are its lack of built-in RAM and the limited amount of available software. Most end users will find 16K of RAM insufficient to store any serious amount of data and will have to purchase additional data cartridges at $350 per 64K increment. If Micro Office brings out more software and makes the overall cost more attractive, RoadRunner would be a wise choice for a second computer. ●

INSIDE INFO

▸ What is AUTO LF and when should I use it?

Auto LF refers to automatic line feed. Some application programs do not generate an automatic carriage return. The Auto LF feature in terminal programs is used to insert line feeds in those files when needed. The Auto LF is activated when it is toggled on. If you are not certain whether your files already have carriage returns, set the toggle on anyway. If the file does not need it, the displayed text will be repeated. Then you can turn it off. If the auto line feed is set to "no" or "off" when it should be "yes" or "on", displayed text will continuously overwrite itself on a single line.

▸ What is the difference between emphasized and double-strike printing?

To fully understand the printing modes, you must know how a dot-matrix printer outputs characters. Whenever a character is typed, the print wires hit the ribbon and place a matrix of ink dots on the page. Because of the speed at which most dot-matrix printers traverse the page, character impressions are generally light and "spacey". Both emphasized and double-strike printing upgrade the print quality of dot-matrix printers.

• *The emphasized mode* forces the printer to print more slowly than its normal speed. The print wires can then apply more ink per strike.

• *The double-strike mode* handles the problem differently. It retypes the character slightly off-center. In this way, it fills in some of the space between the dots in the letter. By using both modes at the same time, it is possible to get a near-letter quality output.

▸ Why does a telephone's call-waiting feature disrupt telecommunications?

Because modems are sensitive to any outside noise when in the receive mode, a call-waiting signal is accepted as any other legally transmitted signal. In some cases, especially with dumb modems, the signal may be treated as another character. If this happens, the data becomes garbled and, if there is no checking, lost. If the modem is of the smart variety, the call-waiting signal will not be accepted as a character, but as something entirely different — the modem's own hang-up signal. Therefore, there are only two solutions to the call-waiting/telecommuting problem: Either you get two phone lines or drop the call-waiting feature. ●

PC Money Talk

Keeping a PC log for the IRS

The provisions in H.R. 4710, the new Federal income tax bill (Deficit Reduction Act of 1984) that restricts deductions based on purchase of personal computers, are predictably stirring up unanticipated questions. One is whether and when to accede to employee requests for a letter asserting that PC ownership is a condition of their employment. From the bill's language, it appears that a simple statement will not suffice. Tax auditors will still query *why* individuals need home computers.

In all cases, however, employees and self-employed taxpayers *must* keep a log of business and personal use of their micros. Here are *BMR's* suggestions for setting up your log:

- If your personal computer features a date and time function, your log-keeping problems are solved. At the start of each session simply edit the batch file so that answers to the prompts are sent to disk. Remember to have the computer prompt you at the end of the session as well.
- Why not include the name of the program you used? This can be done by redirecting a screen dump of the A prompt at the time the program is called to disk. If you use an autoboot disk, you will have to edit the COM or EXE file so that the same result is achieved.
- If your computer does not have the date and time prompts, you can either write an appropriate program or keep a log the old-fashioned way — by hand.
- **TaxCalc Real Estate Planner** template works with major spreadsheet packages to help estimate the true worth of a real estate investment over one to ten-year periods. It also performs cash flow analyses, taking taxes and other variables into account, in order to evaluate purchases of rental property. *Real Estate Planner* costs $100 and works with Apple, IBM, Tandy/Radio Shack and CP/M systems with a minimum of 128K RAM and one disk drive. *Taxcalc, 4210 W. Vickery Blvd., Ft. Worth, TX 76107. 817/738-3122.*
- **CompuServe adds Disclosure II,** a database containing descriptive information on more than 10,000 companies whose stocks are traded on the American, Over the Counter and New York Stock Exchanges. Disclosure data is extracted from reports filed with the Securities and Exchange Commission. CompuServe also offers the Disclosure/Spectrum database of information about major stockholders of more than 5,000 companies. When requesting company reports, users must know the ticker symbol, the first six digits of the CUSIP number or the Disclosure number.

BUYING SMART

- **Used Computer Guide** is described as the used car blue book equivalent. Designed to provide guidelines to buyers and sellers of used computers, it lists over 260 computers in typical configurations, and includes a directory of U.S. microcomputer brokers, electronic bulletin boards, and publications that cover used equipment. The Guide is published quarterly. An annual subscription is $50. *The Hansen Publishing Co., P.O. Box 1194, Mercer Island, WA 98040. 206/232-7709.*
- **Lotus CompuServe promotion.** As a special promotion, Lotus Development Corp. is offering purchasers of its $695 Symphony integrated software package a free introductory subscription to the CompuServe network's Executive Information Service. The service includes *The World of Lotus*, a forum for Lotus software users providing product information and the ability to exchange ideas and messages. The CompuServe kit, called IntroPak, contains free sign-up, an instruction booklet and a $15 credit toward on-line charges.

TOOLS AND CONCEPTS

- **More mass storage for CP/M PCs.** 128K may be the current maximum memory of 8-bit business-oriented personal computers, but manufacturers are breaking through this limitation with expanded mass storage. Multi-megabyte floppies and hard disks may be slower than RAM, but after you've used them, you'll wonder how you ever got along without them. Notable among new introductions are:
- *Kaypro* 4X computer features a 2.6-Mbyte Versatec floppy disk drive (an application of Kodak's vertical recording technology). The $2,495 system comes bundled with Kaypro's standard package of applications programs on a single disk, thus eliminating the need for disk swapping. The 2.6-Mbyte floppy drive is also featured on the Model 12X expanded version ($3,295) of the hard-disk Kaypro 10 system.
- *Morrow*, whose MD11 system offers nearly 11 megabytes of hard disk storage vs. the 10 megabytes of the equivalently priced Kaypro 10, has further widened its lead. The new Micro Decision models 16 and 34 respectively offer 16.4 and 34.4 megabytes of Winchester disk storage. They are priced at $3,495 for the MD16 and $4,995 for the MD34.
- **ACT Computers (North America) Inc.** has introduced a 1.44-Mbyte, dual, double-sided, disk drive version ($3,185 with a 9-inch monitor, $2,895 without) of the 16-bit Apricot personal computer. The British-made system runs MS-DOS, CP/M and CP/M-86.
- **Canon TX-50 desktop computer is** a 16-bit, MS-DOS system with 128K of RAM, expandable to 256K, and a $1,295 price tag. It features a built-in, 30-column wire-dot impact printer, with 1.2 lines-per-second print speed. The TX-50 keyboard has 50 function keys, each with an LED light to facilitate use of the keys for macroinstructions. A 360K three-inch disk provides mass storage. The relatively low price, built-in printer and limited IBM compatibility reflect the TX-50's design as primarily a turnkey system for vertical applications.
- **Futureware?** "VDB" may soon be the latest buzzword on the PC scene. The letters stand for Voice Data Boxes, a combination of telephone and computer in a single unit. VDB introductions by IBM and AT&T are expected this Fall.
- **The Maxwell Modem** comes in 300 and 1200 baud versions and can be connected to any RS-232 port. It is a direct-connect modem, compatible with the Bell 103 and 212 standards. Features include call-progress detection; unattended dialing with tone or pulse signaling selecton; and answering and call disconnect. The 1200-baud version includes full diagnostics capability for local and remote inspection and a coherent detection technique to provide error-free transmission. The suggested retail price is $325 for the 300-baud modem and $595 for the 1200-baud version. *Racal-Vadic, 1525 McCarthy Blvd., Milpitas, CA 95035, 408/946-2227.*
- **Limelight computer projector** is claimed to be the first portable unit (22 pounds) of its kind. It projects four to ten-foot diagonal computer screen images onto walls, screens or other surfaces. Its monochromatic green display has over 700 lines of resolution. The

(continued on page 8)

BMR subscribers can now receive monthly reports for more than one make of computer. The charge for this service (which includes first-class mailing of the monthly newsletter with inserts) is $10/yr. per additional computer make.

Reports are available for:

- Apple
- Atari
- Commodore
- IBM
- Kaypro
- Osborne
- Texas Instruments
- TRS-80

WANTED... WANTED... WANTED

Freeware, public domain software announcements. We will selectively publish information concerning new no-charge or suggested-donation application software for Apple, Atari, Commodore, IBM, TI, TRS-80, CP/M and MS-DOS computers. Send announeements — including charges or donations, and full ordering address — to *Freeware/Public Domain Software Editor, Baron's MicroComputing Reports, 344 E. 49th St., New York, NY 10017.*

One-Stop Page Composition Software

If you use your personal computer for publishing, you know that you can produce final copy in single-column width. But you still have to compose the page design and paste up the copy yourself to achieve full-page layout. Now there is a new software package to relieve you of this tedious and error-prone chore. *PagePlanner* is said to be the first program for converting raw copy input into finished type as a complete page format with full hyphenation and margin justification. The program is designed to give you "what if" flexibility so you can try out different type sizes, spacing, rules, windows, and column widths until a satisfactory page layout is displayed on the PC screen. The final page design is then sent to the typesetter on a disk or via modem.

Until now, capabilities similar to these have been restricted to large and costly multi-workstation networks. This consideration makes PagePlanner's fairly stiff $1,995 price seem less of a disadvantage. The program is written for PC-DOS 2.0 and requires 256K RAM, two 320K floppy disk drives and a Hercules graphics card. It runs on IBM PC, XT and most compatible personal computers. By means of custom cables, it is compatible with Mergenthaler 202 and 202N typesetting machines. Drivers will be available for other widely used typesetters. *Westminster Software, Inc., 660 Hansen Way, Suite 2, Palo Alto, CA 94304. 415/424-8300.*

tools & concepts- *(continued)*

projector can be used with any personal computer with a standard RS-232 interface. Pointer light and cables are included in the $3,950 price. *Vivid Systems, Inc. 2440 Embarcadero Way, Palo Alto, CA 94303. 415/424-1600.*

• **RamTape-PC** is a mass storage device for IBM PC, XT and compatible computers. In its basic configuration (64K RAM), it stores 18.5 Mbytes of data (the equivalent of 30 double-sided floppy disks) on a single ¼-inch tape cartridge. The enhanced version with 384K RAM can access stored data in single "floppy disk" increments and transfer it to an electronic RAM disk. The retail prices are $1,995 and $2,295 respectively. *Quantex Division of North Atlantic Industries, Inc., 60 Plant Ave., Hauppauge, NY. 516/582-6060.*

• **MicroSpooler buffer/interface** stores 16K of data from computers or remote transmitting sources until the printer is ready to accept it. According to the manufacturer, users report a 30% increase in computer availability as a result. Because MicroSpooler can accept data from such sources as telephone modems and remote terminals, it can be used as a separate data collection device. It can also "stack" selected text, tables and graphics and print them in any desired order. Suggested list price of the parallel-to-parallel interface unit begins at $299. Options include 64K memory expansion and serial interfacing. *Consolink, 1275 Sherman Drive, Longmont, CO 80501. 1/800/525-6705.*

• **Axiom GP-550 printer** is claimed to be the first personal computer printer offering both dot matrix and "near letter-quality" (NLQ) printing. In the draft mode, the GP-550 operates at up to 86 cps with six character sets. In NLQ mode, it operates at up to 43 cps with 12 additional character sets. The GP-550 has built-in interfaces for many personal computers including Apple, Atari, Commodore and TI units. The GP-550PC model is compatible with IBM and look-alike computers. Prices for both models begin at $299. Units with built-in interfaces begin at $319. *Axiom Corp., 1014 Griswold Ave., San Fernando, CA 91340. 818/365-9521.*

Words Processed

• **Micro Adventure No. 1: Space Attack.** *By Eileen Buckholtz and Ruth Glick. 123 pages. Scholastic Inc. $1.95, paper.* By combining prose and computer programming, Space Attack is one response to the complaint that children spend too much time on the computer instead of reading. To fully enjoy this interactive adventure novel, the reader must enter and run the eight short Basic programs listed throughout the story. Six computers are supported (IBM, Apple, Radio Shack, Commodore, TI and Atari). A recommended buy, especially considering the price.

• **Understanding C.** *By Bruce H. Hunter. 320 pages. Sybex Books. $17.95, paper.* The cover blurb states that the book "makes it easy for anyone with programming experience to learn the C language." That may not be true: but if it isn't, it's not the author's fault. Hunter not only writes clearly and explicitly, he also provides program listings and examples that a novice can follow.

Understanding C begins with a discussion of the language itself — operators, data types, pointers, files, and structures. The second section deals with the functions in the language from system-specific functions to memory management functions. In other sections, practical applications are supplied and various implementations of the language are discussed. Recommended.

• **The Best of CP/M.** *By John D. Halamka. 252 pages. Sybex Books. $14.95, paper.* The 45 programs reviewed are grouped into eight categories: wordprocessors, database managers, spreadsheets, financial software, communications, entertainment, utilities and programming languages. There are a few paragraphs on evaluation criteria in each category. The individual reviews are accompanied by a report card.

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PERSONALIZED REPORT FOR: TRS-80

September, 1984 Alan B. Abrahamson, Technical Editor

* OMNITERM, VERSION 1.60, RELEASE 12

If you are looking for a truly full-featured communications package for your TRS-80, you might try Omniterm. It stands out as being more than just a standard terminal package, with all the limitations that this implies. As can be seen below, Omniterm is a multi-faceted program which performs functions extending beyond terminal control alone.

Here are some of the major functions that you can do with Omniterm. You can reformat your CRT, and also specify linefeeds and carriage returns. In addition, the program (which operates in either FULL or HALF duplex with or without ECHO) governs transmission of data to or from your buffers, and controls your UART (RS-232). It also provides access to buffer contents and saves and loads files to or from buffers. File transfers can conform to several protocols including XMODEM. Hayes, LYNX or Microconnection modems can be used for autodials and sign-ons.

Omniterm's multi-function capabilities are based on built-in translate tables. These tables translate codes that might be difficult to handle into more compatible formats for easy transmission or reception of data characters. Program documentation is concise, to the point and clearly written. The manual effectively provides everything that you will need to know about Omniterm.

If I had a complaint about Omniterm, it would be that only a single telephone number can be stored in a setting file. The consequence of this restriction is that you must have a setting file for every number that you may call. The program does allow you to make as many setting files as you wish and to give each one a different name. Unfortunately, this uses up a lot of disk space. A more convenient approach would have been to group the setting files by protocol and to allow the user at least 10 numbers in each file. This would free you from having to load a new setting into Omniterm for each number you may call.

Omniterm features a broad range of utility programs. They include utilities to convert Binary to Hex, Binary to Error-checking and vice-versa. Also featured are a Basic Text Edit program, and a file transfer utility in XMODEM error-checking protocol that can be used from DOS or from within Omniterm. As an added feature, Omniterm tracks transmission errors on-screen. This is helpful when the phone lines are noisy. Six standard setting files are also included for calling Dow Jones, the Source, and CompuServe.

Because Omniterm is such a complete package, you do not, if you have it, really need any other communications add-ons. The program is "user-friendly," and menu command-oriented. While testing it, I encountered neither problems nor errors in sending or receiving data. (Note: All my testing was done at 300 baud, so I cannot comment on the program's performance at higher speeds.)

Omniterm is priced at $95 for TRS-80 Models 1 and 4, and $175 for Models 11/12/16. Lindbergh Systems, 49 Beechmont St., Worcester, MA 01609. 617/852-0233.

* T.B.B.S., THE BREAD BOARD SYSTEM, VERSION 1.2

If you are interested in communicating by computer and have tried using the bulletin board services in your area, you may have already come across a T.B.B.S. bulletin board system. There are not that many different systems on-line in

(Continued on page 10)

the United States. I would venture to say that this is the best of all of them--that is, if the SYSOP (system operator) keeps his board up. My experience has been that for ease of service, none is superior. In use, none is faster. In flexibility, none has more to offer.

Because of the space limitations of this column, I have to forego discussing all the remarkable features of the T.B.B.S. system. One of its more unusual features is multiple boards. With only one micro dedicated to the task of providing a bulletin board service, multiple password-accessed boards can be run from the same software. This can create private as well as public information bases. Each user of T.B.B.S. is assigned a level of access. This access can be so high as to allow you to remotely maintain or create new boards within the existing board. In fact, given a high enough level of authority, you can even operate the host computer remotely.

T.B.B.S. is 100-percent machine language, unlike almost all the other boards that I have seen which are mostly in Basic. I have no quarrel with Basic as a language for computers. But when real-time response is needed and communications are already limited by baud rates, machine code is the answer. T.B.B.S. recognizes both 300 and 1200-baud modems and has set-up tables for most of the popular computers on the market today. This makes it easier for users to enter the system, and it speeds up interfacing with the system.

Perhaps the weakest link in T.B.B.S. is the limited documentation. Most people inclined towards establishing a bulletin board system would be experienced enough to find the manual adequate for their needs. But users with little or no communications experience would probably want to have more examples than the documentation gives them. What the company does provide to registered owners, however, is 24-hour support service via their own T.B.B.S. on-line system.

System requirements: TRS-80 Models I/III/IV, LNW, MAX-80 with 48K of RAM, two disk drives with 200K free space, running NEWDOS-80, LDOS or DOSPLUS. Ebert Personal Computers, Inc., 4122 South Parker Road, Aurora, CO 80014. 303/693-8400. Written by Philip L. Becker. $199.95.

* DATAGRAPH (VERSION B)

DataGraph is a special graph printing program that works with VisiCalc and a graphics printer. The printers it supports are: MX-80 Graftrax or GT+, MX-100, FX-80/100, LP VIII, DMP200-2100 or 120, NEC 8023 A-C, C. Itoh 8510, IDS 460/560 or 480 or 80/132, Okidata 82/83 or 92/93 or 84 or Gemini 10 or 15.

I tested DataGraph on a Model I with an Epson MX-80 Graftrax printer. I used the NEWDOS-80 Version 2 operating system. DataGraph can be used with TRSDOS, DOSPLUS, LDOS or NEWDOS. Separate versions are available for your computer model and printer combination.

The programs and example data are easy to transfer to your operating system. Instructions are given for each supported operating system. The documentation is clear in this regard. I tested the newest version available which includes pie charts and logarithmic charting. The programs allow you to create BAR, LINE or PIE charts on your screen and print them to your printer. You can select from the symbol tables provided, or design your own graphics symbols using the editor supplied.

Many example files are supplied on disk for you to experiment with. Unfortunately, not all of those in the manual are provided. In fact, my biggest complaint here, too, is with the manual. If you are not familiar with VisiCalc DIF (Data Interchange Format) files, you find the manual somewhat confusing. The programs have been upgraded several times from the original VisiGraf concept, but the manual has not kept up with these changes. Although the new features are included in addendum chapters, a revision of the entire manual from the first to the last page would have been more conscientious. As it is, the addenda merely add to the confusion.

The best way to gain at least a slight degree of confidence in using DataGraph is to use the examples that are supplied, and revise them or create a test VisiCalc template. Then you can experiment with the program. Try producing several kinds of graphs with one set of data, and you will soon be on to the scheme

of DataGraph. You can produce graphs of professional quality if you create them with care. All facets of graphing are available, and you have unlimited flexibility for creating them.

DataGraph is useful as a management tool for the visual presentation of VisiCalc data. Even if you use VisiCalc infrequently, you will find that you can easily prepare the data in a VisiCalc DIF file for use with DataGraph.

One other minor annoyance is that the menus do not always accept lower-case letters. However, the data files do accept them and so do some of the menus. I find this a needless inconsistency.

There are various incentives that may attract users of the initial DataGraph (VisiGraf) version when considering whether to upgrade to Version B. Noteworthy among them is the logarithmic charting function. The bar-and-line graph capabilities are also particularly effective. In fact, they are superior to DataGraph's pie-cutting capability. Another valuable feature is that the program provides the ability to use multiple symbol tables. You can use as many as 27 tables, and each can contain up to 12 symbols. This should provide sufficient flexibility for any user. The new version also permits embedded quotes in the label fields as well as negative graphs and multiple grid labels.

If you need high-resolution graphs for your business or other activities, DataGraph is for you. It is the best graphing program for the TRS-80 that I have seen to date. Micro Software Systems - Microplot, Inc., 1815 Smokewood Avenue, Fullerton, CA 92631. 714/526-8435. $129.95 for Models II/12/16; $119.95 for Models I, III.

* LeSCRIPT

LeScript is touted as the "World Class" word processing system by its authors. This is not merely Madison Avenue hype. LeScript is certainly in a class with the finest word processors available today for any micro and specifically for the TRS-80. The distribution version 1.40 that I tested runs on the Model I or III, LNW, and PMC-81. There are versions for the Model 4, LNW-80 and Lobo Max-80 that make use of the 80-column screen. In addition, a CP/M version for the Model II is available ($199.95), and an MSDOS version for the Tandy 2000 is in the works.

The documentation is adequate but complete. Perhaps a few more examples might be in order for the less experienced word processor user. LeScript is not operating system-dependent. It worked well on all the disk operating systems that I tested. I have two different printers and, by changing the printer drivers (an extremely easy task), I was able to operate with either one.

LeScript is the simplest word processor I have ever used since the original Radio Shack Scripsit. Almost all functions are controlled via the use of the CLEAR key as a control key, followed by another command key. There are a few cases when yet another keystroke is required, but these instances are in the minority.

As you would expect of a word processor, LeScript will enter, edit and print your text. It handles headers and footers in your document with ease. It allows special text handling like superscripts, subscripts, bold print, hyphenation, italics, special non-keyboard characters and underlining, as long as your printer is capable of producing these effects. There is, however, much more that it will do for you. It will supply printer driver tables for over 140 different printers. This is an important advantage because it means you can use multiple printers with the same word processing system.

LeScript has many bonus features not often found in other word processors. The best is that it gives you the ability to view your formatted text on screen prior to printing. This view mode shows you the text exactly as if it were on paper, including indents, page breaks and centering. If any special commands, like underlining, are embedded, the screen flashes on and off at the location of the underlined text, thereby leaving undisturbed the actual format of the document. This is true for the other special commands as well.

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Justification of text is also handled in a similar way. This feature allows you to see where it would be advantageous to hyphenate a long word that would otherwise leave too many empty spaces in a line that is under right margin control.

LeScript handles typewriter style tabs, reverse indents, and has the ability to read and write several types of files other than its own. For example, you can handle VisiCalc files, Basic program files, Radio Shack and Apparat Editor Assembler source files, or any other ASCII file. Auto renumbering is available for those formats that require line numbers. The tabs, column grid marker, line count, word count, file name, text width, search item, replace item and available memory are always on screen in the status lines.

Extra features included with the LeScript system are a MailMerge data file handler, utilities to transfer old files from Newscript to Scripsit to LeScript format, and a utility to transfer Profile III+ data files to LeScript MailMerge format. The program also provides sample text files for practice. Legal letter auto numbering, keyboard macros, print queue chaining, directory control, auto file loading, and text recovery are some other features. LeScript also has the ability to send any control codes to your printer, make multiple copies, and search and replace text. It can handle block text control, character pitch and density for those printers that support proportional printing. There is also Electric Webster spelling checker support. In addition, ANITEK provides 30-day registered owner support and a subscription to the LeScript Newsletter.

The only two improvements I would like to see in some future version of LeScript would be on screen help for commands and the ability to go directly from view mode to edit mode at the place in text where the cursor is currently located. Because of the absence of this latter feature, you have to focus on remembering where you wish to make a correction, exit view mode and then find the location in the text by scrolling or finding a word of text. It would also be nice if the view mode could be scrolled in both directions. These may be minor features, but they would make this program even better. ANITEK Software Products, P.O. Box 361136, Milbourne, FL 32936. 305/259-9397. $129.95.

* FREE TANDY 2000 SOFTWARE OFFER

Owners of Tandy TRS-80 Model 2000 computers are being offered the PC Maker program free of charge. PC Maker is a utility which facilitates exchanges of data files between the Tandy 2000 and other MS-DOS and PC-DOS computers such as the IBM PC family. Using PC Maker, users can format 40-track, PC-DOS-compatible disks. Data files copied on formatted disks by the Tandy 2000 can be read or copied to disk by other MS-DOS or PC-DOS systems. To acquire a copy of PC Maker, present proof of purchase of your Tandy 2000 computer to your local Radio Shack store or Computer Center. The utility program is now included with all new Tandy 2000 computers.

* GAME DISK 1

I do not usually partake of such diversions as games, mostly because my dexterity is always overshadowed by that of any eight-year-old. However, I recently received CCD Software's Game Disk 1 containing three games: Lance, Bugzap and Birdman. They are 100% machine-language creations with good arcade-type graphics. Of the hundreds of games I have seen in my micro years, these would hardly make my Top Ten list by any standards. But look at the price! At $5 per game, this may be the buy of the century. If you enjoy recreational software, you could not better spend $15. Although the games have limited sound routines, they are simple to play and require manual dexterity. They run on Model I and III and are distributed on diskette as "CMD" files for either model. Have fun! CCD Software, P.O. Box 4359, Virginia Beach, VA 23454.